

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended): A process for preparing non-crosslinked high-functionality highly branched polyureas which comprises reacting one or more carbonates with one or more amines having at least two primary and/or secondary amino groups, at least one amine having at least three primary and/or secondary amino groups, wherein the average amine functionality of the amines excluding unreactive tertiary amino groups is from 2.1 to 5, comprising the steps of:

(i) reacting the one or more carbonates with the one or more amines to yield condensation products (A) comprising one carbamate group and from 1 to 4 amino groups reactive with a carbamate group, or one amine group reactive with a carbamate group and from 1 to 4 carbamate groups, and

(ii) reacting intermolecularly the condensation products (A) to form a polycondensation products (P) comprising both carbamate and amino groups, the polycondensation products (P) containing branching but no crosslinking.

2. (Previously Presented): A process according to claim 1, wherein amines having two primary and/or secondary amino groups are reacted, these amines being selected from the group consisting of ethylenediamine, N-alkylethylenediamine, propylenediamine, 2,2-dimethyl-1,3-propanediamine, N-alkylpropylenediamine, butylenediamine, N-alkylbutylenediamine, pentanediamine, hexamethylenediamine, N-alkylhexamethylenediamine, heptanediamine, octanediamine, nonanediamine, decanediamine, dodecanediamine, hexadecanediamine, tolylenediamine, xylylenediamine,

diaminodiphenylmethane, diaminodicyclohexylmethane, phenylenediamine, cyclohexylenediamine, bis(aminomethyl)cyclohexane, diaminodiphenyl sulfone, isophoronediamine, 2-butyl-2-ethyl-1,5-pentamethylenediamine, 2,2,4- or 2,4,4-trimethyl-1,6-hexamethylenediamine, 2-aminopropylcyclohexylamine, 3(4)-aminomethyl-1-methylcyclohexylamine, 1,4-diamino-4-methylpentane, amine-terminated polyoxyalkylene polyols or amine-terminated polytetramethylene glycols.

3. (Previously Presented): A process according to claim 1, wherein the at least one amine having at least three primary and/or secondary amino groups is selected from the group consisting of bis(aminoethyl)amine, bis(aminopropyl)amine, bis(aminobutyl)amine, tris(aminoethyl)amine, tris(aminopropyl)amine, tris(aminohexyl)amine, trisaminohexane, 4-aminomethyl-1,8-octamethylenediamine, trisaminononane, N-(2-aminoethyl)propanediamine, N,N'-bis(3-aminopropyl)ethylenediamine, N,N'-bis(3-aminopropyl)butanediamine, N,N,N',N'-tetra(3-aminopropyl)ethylenediamine, N,N,N',N'-tetra(3-aminopropyl)butanediamine, melamine, oligomeric diaminodiphenylmethanes, amine-terminated polyoxyalkylene polyols with a functionality of three or more, polyethyleneimines with a functionality of three or more or polypropyleneimines with a functionality of three or more.

4. (Previously Presented): A process according to claim 1, wherein the carbonate is selected from the group consisting of ethylene carbonate, 1,2- or 1,3-propylene carbonate, diphenyl carbonate, ditolyl carbonate, dinaphthyl carbonate, ethyl phenyl carbonate, dibenzyl carbonate, dimethyl carbonate, diethyl carbonate, dipropyl carbonate, dibutyl carbonate, diisobutyl carbonate, dipentyl carbonate, dihexyl carbonate, diheptyl carbonate, dioctyl carbonate, didecyl carbonate, and didodecyl carbonate.

5. (Previously Presented): A process according to claim 1, wherein an amine or an amine mixture having an average amine functionality of from 2.1 to 10 is reacted.

6. (Previously Presented): A process according to claim 1, wherein the reaction of the carbonate or carbonates with the amine or amines takes place in a solvent.

7. (Original): A process according to claim 6, wherein the solvent is selected from the group consisting of decane, dodecane, benzene, toluene, chlorobenzene, dichlorobenzene, xylene, dimethylformamide, dimethylacetamide, and solvent naphtha.

8. (Previously Presented): A process according to claim 1, wherein the reaction takes place in the absence of an inert solvent.

9. (Previously Presented): A high-functionality highly branched polyureas prepared by the process according to claim 1.

10. (Canceled).